



# UNITED STATES PATENT AND TRADEMARK OFFICE

8

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,518	04/15/2005	Toshiaki Miyauchi	19036/41135	6170
4743	7590	07/06/2007	EXAMINER	
MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606				YEE, DEBORAH
ART UNIT		PAPER NUMBER		
1742				
MAIL DATE		DELIVERY MODE		
07/06/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/531,518	MIYAUCHI, TOSHIAKI
<b>Examiner</b>	<b>Art Unit</b>	
Deborah Yee	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 April 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4-15-05/6-03-05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____.                         |

**DETAILED ACTION*****Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 to 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,143,425 (hereinafter Tanaka).

3. Claims 1 to 4 in column 32 of Tanaka discloses a rolling bearing comprising a plurality of rolling elements provided between inner and outer rings, at least one of the inner and outer ring and the rolling elements being formed of a corrosion resistant bearing steel comprising a composition with constituents whose wt% ranges overlap or closely approximate those recited by claims 1 to 3 and 5; such similarities establishes a *prima facie* case of obviousness because it would be obvious for one skilled in the art to select the claimed alloy wt% ranges over the broader disclosure of the prior art since the prior art teaches the same utility (rolling bearing suitable for use in compact equipment such as an HDD or VTR with excellent acoustic characteristics and corrosion and wear resistance). See MPEP 2144.05.

4. Even though Tanaka bearing steel contains a lower Cr limit of 10% whereas present invention alloy contains an upper limit of 9.5%Cr, such would not be a patentable difference since applicant has not demonstrated that the slightly lower Cr

Art Unit: 1742

content is somehow critical (e.g. by comparative test data) and productive of new and unexpected results.

5. Moreover, Tanaka in claim 4 of column 32 discloses steel having a structure containing eutectic carbides at 2  $\mu\text{m}$  or less with an area fraction of 5% or less, and overlap with the claimed eutectic carbides with an average diameter of 0.2 to 1.6  $\mu\text{m}$  having an average area of 0.03 to 2  $\mu\text{m}^2$ . Also prior art on lines 10 to 15 in column 6 teaches a hardness of HRC 58 or more, which is within applicant's claimed range of HRC 58 to HRC 62; and lines 54 to 67 in column 15 and lines 1 to 4 in column 16 discloses retain austenite at 6 vol.% or less and preferably 4 vol.% or less, which is within applicant's claimed retained austenite range of 6 vol.% or less.

6. Even though prior art does not teach steel having an average crystal grain size of 6 to 9.5  $\mu\text{m}$  as recited by claim 4, such grain size would be expected since the composition and other properties are closely met and process of making by hardening, subzero treating and tempering are essentially the same, and in absence of proof to the contrary.

7. In regard to claims 6 to 10, prior art on lines 9 to 65 in column 1 teaches using bearing steel as an instrument having a rotating portion, such as a hard disk drive or precision instrument.

8. The unapplied references have been cited to further depict the state of the art in bearing steels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00am-2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Deborah Yee  
Primary Examiner  
Art Unit 1742

DY